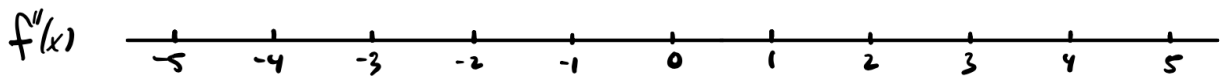


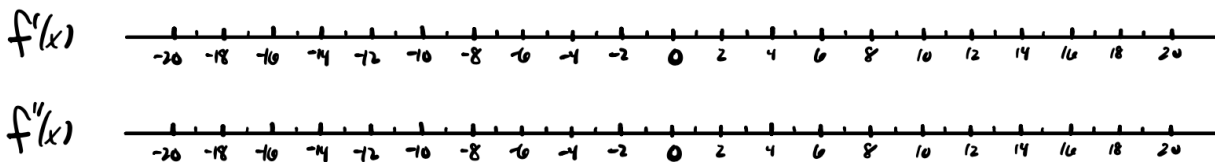
§4.3 (PART 2): CONCAVITY AND THE SECOND DERIVATIVE TEST

- 1.] Determine the intervals of concavity of the function $f(x) = 3x^5 - 30x^4 + 80x^3 + 100$. Identify all inflection points.



- 2.] Locate the critical points of the function $f(x) = x^2e^{-x}$. Then use the Second Derivative Test to determine whether the critical points correspond to local maxima, local minima, or neither.

- 3.] Determine the intervals of monotonicity and concavity of the function $f(x) = x^4 + 8x^3 - 270x^2 + 1$. Use the first or second derivative test to determine all local extreme values.



- 4.] Determine the intervals of monotonicity and concavity of the function $f(x) = 27(x - 2)^3(x + 2)$. Use the First or Second Derivative Test to determine all local extreme values.

